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ABSTRACT

Although nearly 14 million jobs have been added to the economy since 1979, there is strong evidence that job expansion has been purchased at the price of lower wages. A number of studies have confirmed this downside to job creation, the most prominent being a 1986 study by Bluestone and Harrison for the Joint Economic Committee. A recent study conducted by American Enterprise Institute economists Kusters and Ross for the United States Department of Labor, however, arrived at conclusions that are radically different: they found neither a disproportionate nor a growing share of new jobs in the low-earnings category, but a rise in the share of jobs with high earnings. A reexamination of the Kusters and Ross study concludes that their claims about job quality trends are not supported by their research or by extending their analysis through another year of recovery. Instead, their own data support the general conclusion of the Bluestone and Harrison thesis. Some of the reasons for the disparity include the following: (1) Kusters and Ross focus on the annual wages of all workers, full and part time, and consequently they cannot distinguish between wage growth from people working at higher-paying jobs and that of people working longer hours at lower-paying jobs; (2) their research shows an expansion of low-wage jobs for men--all of the upscaling they find is due to improvements in the annual wages of women; and (3) their estimates shows that midlevel wage jobs shrank, whereas low-wage jobs expanded. (This report contains Mishel's critique of the 1987 report by Kusters and Ross and a critique of the new Kusters and Ross report that was released at the July 1988 Economic Policy Institute seminar.) (KC)

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**BETTER JOBS
OR
WORKING LONGER FOR LESS**

**An Evaluation of the Research of
Marvin Kosters and Murray Ross
on the Quality of Jobs**

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Lawrence Mishel *

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THERE THEY GO AGAIN

**Comments on "The Quality of Jobs: Evidence from Distributions of
Annual Earnings and Hourly Wages" by Kosters and Ross (July 1988)**

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This paper was presented at a National Press Club debate between Lawrence Mishel, Barry Bluestone, and Marvin Kosters sponsored by the Economic Policy Institute on July 14, 1988.

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by Jeff Faux.....i

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Preface

There has been a contentious debate about the quality of the jobs created in the United States in recent years. The questions raised are important ones: are the new jobs primarily low or high wage jobs? How do the new jobs compare to those created in the 1970s? How have recent changes in the level and distribution of wages affected the growth and distribution of family incomes? Have changes in the labor market led to a shrinking middle class? Is it now necessary for families to have two earners in order to maintain a middle class standard of living? What factors are responsible for the changes in the types of available jobs? The employment shrinkage in high wage industries and the growth of low wage industries? How do changes in the demographic composition of the labor force--such as the entry of the baby boomers--affect the outlook for the future?

This debate has been confusing because various analysts drawing on essentially the same data have arrived at sharply divergent conclusions. In the hope of clarifying agreements and disagreements and of lowering the level of confusion over this issue, the Economic Policy Institute (EPI) sponsored a panel discussion entitled "Is America Losing Good Jobs?" at the National Press Club on July 14, 1988. The panel participants were Barry Bluestone of the University of Massachusetts at Boston, Marvin Kusters of the American Enterprise Institute and Lawrence Mishel of the Economic Policy Institute.

Barry Bluestone and Bennett Harrison helped spark the debate on job quality with their 1986 Joint Economic Committee study, *The Great American Job Machine*. Their new book, *The Great U-Turn*, updates and expands on their earlier findings. At the panel discussion Professor Bluestone drew on his recent article (with co-author Bennett Harrison) in the *American Economic Review* (May 1988) entitled "The Growth of Low Wage Employment: 1963-86."

In September 1987, Marvin Kusters (with co-author Murray Ross) challenged

Bluestone and Harrison's methodology and empirical conclusions in an American Enterprise Institute report, "The Distribution of Earnings and Employment Opportunities: A Reexamination of the Evidence." At the EPI-sponsored seminar, Marvin Kusters released a new report (co-authored with Murray Ross) which updated the earlier study and presented evidence from a new data base (hourly earnings derived from weekly earnings data). The new report is entitled, "The Quality of Jobs: Evidence from Distributions of Annual Earnings and Hourly Wages."

Lawrence Mishel's previous research on the quality of jobs included a book, *The Polarization of America: The Loss of Good Jobs, Falling Incomes and Rising Inequality*. At the panel discussion, he presented a new paper which critically examines the findings of Kusters and Ross. According to Mishel, rather than suggesting an improvement in overall job quality, the data presented by Kusters and Ross actually point to a significant deterioration in the wage levels of available jobs.

In order to give the public access to the entire record of the debate, this Economic Policy Institute working paper contains both Mishel's critique of the September 1987 report by Kusters and Ross and a critique of the new Kusters and Ross report that was released at the July EPI Seminar. The Kusters and Ross papers, as well as the above mentioned research by Bluestone and Harrison, are already publicly available.

The large attendance and the enthusiastic participation at the EPI-sponsored event confirmed our belief that the public interest demands more informed and non-technical discussion and debate of the economic issues related to job quality and the future of American employment opportunities and incomes. Policy makers, the press and the American people benefit when issues are joined and scholars are forced to explain their views.

Jeff Faux
President
Economic Policy Institute

**BETTER JOBS
OR
WORKING LONGER FOR LESS**

**An Evaluation of the Research of
Marvin Kusters and Murray Ross
on the Quality of Jobs**

Introduction

Nearly fourteen million new jobs have been added to the economy since 1979, the end of the previous recovery. Although the rate of job growth since 1979 is below that of the prior twelve years, it stands in stark contrast to the performance of most other industrialized countries, particularly those in Europe.¹

This job creation record, however, is not without its downside; there is strong evidence that job expansion has been purchased at the price of lower wages, thus lowering the living standards of the average American worker. Real weekly wages have fallen eight percent since 1979. Real weekly wages have even fallen during the recovery, dropping two percent between 1984 and 1987. There also have been highly visible job losses in high wage sectors, ranging from manufacturing to communications to transportation. Polls - and anecdotal evidence reflect a general impression that there has been a substantial loss of good jobs in recent years and that it has become harder to earn a good living.

A number of studies have confirmed this downside to the job creation "miracle," the most prominent being a 1986 study by Bluestone and Harrison (1986) for the Joint Economic Committee (JEC). Bluestone's and Harrison's JEC study examined job trends between 1973 and 1984 and concluded that new employment had been disproportionately low wage, particularly since 1979. Research which has extended their analysis through 1986 has confirmed a significant expansion of low-wage jobs, but less so than in the original study.

A number of commentators have objected to Bluestone's and Harrison's conclusions. However, not until a recent study conducted by American Enterprise Institute economists Kusters and Ross for the US Department of Labor has there been an effort to develop contrary computations of recent job quality trends. According to Kusters and Ross, they have "re-examined the data employed in the JEC study" and arrived at conclusions that are "radically different." They find "neither a disproportionate nor a growing share of new jobs in the low-earnings category" but a "rise in the share of jobs with high earnings."

This paper reexamines the Kusters and Ross study and updates their analysis to 1986. The primary conclusion is that their claims about job quality trends are not supported by their research or by extending their analysis through another year of recovery. Instead, their own data support the general conclusion of the Bluestone and Harrison thesis. Specifically, this study concludes:

- * Kusters and Ross focus on the annual wages of all workers, those working part-year and part-time, as well as full-time and year-round. Consequently, they can not distinguish between wage growth from people working at higher-paying jobs and wage growth from people working longer hours at lower-paying jobs.

- * Their research shows an expansion of low-wage jobs and low annual wages for men. All of the "upscaling" they find is due to improvements in the annual wages of women. A major part of the improvements in women's annual wages, however, is *more* work rather than higher-paying jobs. The workyear for women was two weeks longer and weekly hours were two percent higher in 1985 than in 1979. This means that the average woman worked 95 more hours annually, or seven percent more, in 1985 than in 1979. The shift to higher annual wages for women is less impressive at second glance since, according to their definitions, a "high-wage" woman does not earn as much as an average man.

- * The general upscaling that Kusters and Ross claim as their principle conclusion is apparent in only one of the three estimates they present; the other two show a greater shift downwards than the shift upwards.

- * An analysis of the wealth of estimates Kusters and Ross have produced overwhelmingly shows that there has been a significant expansion of low-wage jobs among full-time, year-round workers, especially for men. An analysis of Kusters' and Ross' own estimates and an update to 1986, using their own conservative methodology, shows:

- * Mid-level wage jobs shrank from 66.7 percent of the total in 1979 to 61.9 percent of the total in 1986, a loss meaning 4.8 percent of the workforce no longer had mid-level jobs.

- * Two-thirds of this shrinkage of mid-level wage jobs from 1979 to 1986 is associated with an expansion of low-wage jobs, which rose from 10.9 to 14.2

percent of the total. The share of high-wage jobs rose by 1.5 percentage points.

* The loss of mid-level jobs among men was greater, with 7.4 percent of jobs shifting out of the middle between 1979 and 1986. Low and high-wage job expansion were equally responsible for this shrinkage of middle-wage jobs.

* Among women there was a large expansion of high-wage jobs although low-wage jobs expanded from 1979 to 1986 as well. However, according to the Kusters and Ross definitions, a high-wage job for a woman paid less than the average man's job.

* Job quality trends in the 1979 to 1986 period were inferior to job quality trends in the 1973 to 1979 period.

The Issues

It is important to distinguish two dimensions of labor market performance. One dimension concerns the rate of job growth, especially relative to the population seeking work. This dimension is reflected in statistics on unemployment, employment growth, and underemployment.

The second dimension of labor market performance concerns job quality or the types of jobs being created. "Quality" refers to job characteristics such as pay, working conditions, and job stability. The most readily available measures of "quality" are the wages and benefits paid on the job. The degree to which jobs are temporary or part-time when workers prefer permanent or full-time jobs suggests a decline in job quality.²

The primary issue in the quality of jobs debate is how recent trends in job quality compare to trends in earlier periods. Those who argue that there has been a deterioration in jobs and living standards suggest that 1973 was the turning point; since 1973 there has been a slowdown in aggregate income and productivity growth.³ A related claim is that matters have worsened since 1979.

This deterioration, it is contended, is linked to *structural* factors (e.g., industry restructuring, employment shrinkage in high-wage sectors, import competition) rather than *cyclical* changes in the economy. As a result, any analysis of changes in the quality of jobs should focus as best possible on changes in the economy from cyclical peak to cyclical peak so as to reveal shifts in the underlying structure of the labor market.

Measuring Changes in the Quality of Jobs

Some basic choices involve the time periods to be analyzed and the measure of job quality. In accord with the logic above, the periods analyzed below are 1973-79 and 1979-85, which are the same periods selected by Kusters and Ross. New data for 1986 (the last year for which data are available at this point) are presented so that the analysis takes as much of the current recovery into account as possible.

Both the Bluestone and Harrison and the Kusters and Ross studies are based on Census Bureau data on the annual wage and salary income of workers over 16.⁴ The critical choice with these data is whether to use the information for all workers or, instead, to limit the analysis to those who worked in full-time jobs for the entire year (at least 50 weeks)--called full-time, full-year (or year-round) workers. It is well established that the share of the workforce employed part-time or part-year is very sensitive to the business cycle. Therefore, the best and least controversial measure of the quality of jobs is to focus on the wages paid to full-time workers who worked a full year, *since such an analysis controls as best possible for changes in part-time and part-year work that result from the ups and downs of the business cycle.*

The Kusters and Ross study includes analyses of full-time, full-year workers but highlights the analyses of the annual wages of all workers in their report's summary. In popular presentations of their conclusions, such as a *Washington Post* op-ed piece and an article in *Public Interest*, Kusters and Ross do not mention any of their findings regarding year-round, full-time workers.⁵ It is a major contention of this paper that this focus on the results for all workers rather than just full-time, full-year workers leads to misinterpretations of Kusters' and Ross' research and, in fact, contradicts their own critique of the Bluestone and Harrison JEC study.

Ironically, much of the criticism of the Bluestone and Harrison JEC study was that they focused on the annual wages of all workers (including workers who worked either part-time or part-year as well as full-time and full-year). Critics claimed that their results may have reflected changes due to the business cycle. BLS Commissioner Janet Norwood (1987), for instance, wrote in the *New York Times* that "our work at the BLS suggests that there is a strong cyclical pattern that overwhelms any long-term trend."⁶ Warren Brookes

(1987) claimed the Bluestone and Harrison study was "dreadfully flawed" because it used: annual incomes (*sic*) actually received rather than 'usual weekly wages' of particular jobs. It does not differentiate between full-time and part-time jobs, or consistency of job tenure.

Robert J. Samuelson (1987) labeled the JEC study "Economic Propaganda 101," ostensibly for the same reason:

Comparing 1979 (average unemployment: 5.8 percent) with 1984 (average unemployment: 7.4 percent) also was misleading. The study *doesn't actually compare jobs but rather the wage and salary incomes of workers. The difference is important.* In 1984 more workers with good-paying jobs were on layoff or between jobs, reducing their annual earnings--even if their salaries or wage rates hadn't changed. The study made it appear that they had simply gotten lower-paying jobs. [Emphasis added.]

In response to these criticisms, Bluestone and Harrison updated their JEC analysis to 1985 and then to 1986, focusing on full-time, full-year workers.⁸

Researchers using data on weekly wages (from another source) rather than annual wage data have also chosen to focus on the wages of full-time jobs. This is done to avoid having the results influenced by greater part-time work found in years of high unemployment. This is true of the two BLS analyses on this subject (see Rosenthal 1985, and McMahon and Tschetter 1986) and of the research by Robert Z. Lawrence (1984) of the Brookings Institution.

Kosters and Ross also recommend focusing on full-time, full-year workers. They outline (on page 51) the issue quite well in their criticism of the JEC study's definition of low-wage workers:

The distribution of earnings of all wage and salary workers analyzed and discussed earlier in this paper must be distinguished from a distribution of wages. These two quite different concepts have frequently been confused in public discussion, and indeed the subtitle of the JEC study speaks of a proliferation of "low wage employment." Earnings during a year must be distinguished from a wage--a rate of pay per hour or per week--because annual earnings are frequently low for reasons other than low wages.

The underlying sources of the difference between annual earnings and hourly rates of pay are differences in hours and weeks of work. *Earnings of a year-round full-time worker is a measure that is significantly closer to a wage rate concept than earnings of all workers, because part-year and part-time workers are excluded from this earnings measure.* The two distributions differ markedly in their shape as well as in average earnings levels. [Emphasis added.]

Kosters and Ross argue further that some of the reasons for part-time and part-year

work are the result of choices (retirement, entry or reentry into the labor force, women with family responsibilities and students choosing fewer hours). "It is, consequently, extremely important to distinguish carefully between workers with low earnings in a particular calendar year and low-wage jobs (page 53)." Kusters and Ross (page 53) conclude:

changes in the fraction of all wage and salary workers with low earnings should be interpreted with care. First, and most important, workers with low earnings should not be identified with *jobs* that pay low wages. [Emphasis added.]

Despite Kusters' and Ross' strenuous arguments to focus on the *wages of jobs* (i.e. examine full-time, full-year workers) rather than on the *wages of workers*, they chose to stress the latter in their study and in the popularizations of their research. All of the results presented in their "Highlights of the Conclusions" are based on an analysis of the annual wage and salary income of all workers (part-time or part-year as well as full-time, full-year).

In any event, there is a consensus among all parties in the debate that the most persuasive and accurate measures of changes in job quality are those based on the annual wage and salary income of full-time, full-year workers.⁹ This reexamination of Kusters' and Ross' results, therefore, focuses on their results for this group, results which overwhelmingly show a significant expansion of low-wage *jobs*.

The Two Methods

Kusters and Ross did advance the debate in several ways. The first is that they clarified and measured the two dimensions in which the wage structure can change (page 2):

The two main separate, but interrelated, issues are what has been happening to *levels* of wages and other means of economic well-being and what has happened to their *distribution*.

As Kusters and Ross suggest, this distinction between changes in the *level* of wages --the average change in wages--and changes in the *distribution* of wages--how workers at the bottom and top have fared relative to the average--suggests two methods of examining whether employment growth has been concentrated among low-wage jobs (page 10):

One way is to ask whether the share of workers with earnings less than some fraction of median earnings has increased....A second approach to analyzing trends in shares of workers at different levels of earnings involves defining earnings categories on the basis of fixed cutoffs instead of in relation to current-year median earnings. This second approach is conceptually similar to that employed in the JEC study.

The first approach examines changes in the distribution only while the second approach incorporates changes in the level as well as the distribution of wages.¹⁰ In other words, the first approach measures the shares of jobs with *relatively* low, middle or high wages while the second approach examines the shares of jobs at fixed (inflation-adjusted) low, middle and high wages.¹¹

This reexamination of the Kusters and Ross study generally follows these distinctions. First, we examine changes in the distribution of employment by relative wage level (Method One). Next we examine evidence on changes in median wages i.e., changes in the level of wages. Last, we examine the evidence of changes in employment shares at the fixed (inflation adjusted) levels of wages (Method Two). Kusters' and Ross' results for men and women are presented separately since Kusters and Ross have shown that the recent experience of men and women has been significantly different. Our examination of Kusters' and Ross' results, however, primarily focuses on the experiences of full-time, full-year workers since, as stated above, this best allows us to examine changes in the *wages of jobs* held by workers. Their analysis of the annual wages of all workers is then examined along with various measures of changes in work effort to show the ambiguity of their principle conclusions regarding "job quality."¹²

Method One: Changes in the Wage Distribution of Jobs, 1973-1985

Table 1 presents all of Kusters' and Ross' results (from the text and their appendix) pertaining to changes in the wage distribution of jobs for full-time, full-year workers. The data show whether there has been an increase in the share of jobs which pay a certain percentage below or above the median.¹³ For each group (men, women, all) Kusters and Ross examined changes in the wage distribution of jobs using three sets of definitions for mid-level wages (defining middle as between 75 percent and 150 percent of the median, 50 percent to 150 percent of the median, and 50 percent to 200 percent of the median) and

two definitions for low and for high-level wages. The Kosters and Ross study presents data for two periods, 1973-79 and 1979-85, for each of these definitions.

The key issues are whether relatively low, middle, and high-wage jobs have risen (or fallen) as a share of the total and whether the pattern of job creation was different in the later versus the earlier period. Columns 1 and 2 show the changes in the proportion of full-time, full-year workers with relatively low pay in the two time periods. In the 1979 to 1985 period there was a proportionate *expansion* of relatively low-wage jobs in the economy among men, among women and among men and women combined. This is true using either of the two definitions of low wage (50 percent or 75 percent of the median). The expansion of relatively low-wage employment among men is an acceleration of the trend towards lower-paid jobs that was evident in the 1973 to 1979 period. From 1979 to 1985 an additional three percent of the jobs held by men became relatively low-wage jobs. For women, the expansion of relatively low-wage jobs in the 1979 to 1985 period represents a reversal--from 1973 to 1979 there was a shrinkage of the share of women in relatively low-wage jobs. *The Kosters and Ross research shows a shift towards relatively low-wage jobs in the 1979 to 1985 period for both men and women that is far greater than that experienced in the 1973 to 1979 period.*

Table 1 also shows an erosion of relatively middle-wage jobs held by men and by women, with the middle-wage share of jobs falling by four to six percentage points. This erosion of middle-wage jobs results from shifts downwards as well as upwards. For men, the shift downwards is slightly greater than the shift upwards while the opposite is true for women.

The results combining men and women full-time, full-year workers show a somewhat smaller contraction of relatively middle-wage jobs accompanied by an expansion of relatively low-wage work without any expansion of high-wage work.¹⁴

Table 1: Changes in the Wage Distribution of Jobs, 1973-1985

Row	Group	Kosters & Ross Table #	Definition		Changes in Employment Share By Relative Wage Level					
			Cutoff		Low		Middle		High	
			Low*	High**	1973-79	1979-85	1973-79	1979-85	1973-79	1979-85
					(1)	(2)	(3)	(4)	(5)	(6)
Year Round, Full-Time:										
1.	Men	A6	75%	150%	0.6%	3.1%	-1.4%	-6.0%	0.9%	2.9%
2.	Men	10&A6	50	150	0.2	3.4	-1.1	-6.3	0.9	2.9
3.	Men	A6	50	200	0.2	3.4	-1.0	-5.2	0.8	1.8
4.	Women	A6	75	150	-1.0	1.8	1.8	-6.2	-0.8	4.4
5.	Women	11&A6	50	150	-3.2	2.0	3.9	-6.4	-0.8	4.4
6.	Women	A6	50	200	-3.2	2.0	3.2	-3.9	-0.1	2.0
7.	Men & Women	A6	75	150	1.1	1.7	-3.2	-1.3	2.1	-0.4
8.	Men & Women	9&A6	50	150	-2.5	3.5	0.4	-3.1	2.1	-0.4
9.	Men & Women	A6	50	200	-2.5	3.5	1.1	-3.9	1.4	0.3

* Low wages defined as wages less than or equal to this percentage of the median wage of the current year.

** High wages defined as wages more than this percentage of the median wage of the current year.

This finding of a shift towards relatively low-wage jobs has also been demonstrated by BLS economists McMahon and Tschetter (1986) in their analysis of the *weekly* wages of full-time wage and salary workers. Their data provide a somewhat more accurate depiction of the wage structure than that available using annual data since, as Kusters and Ross (page 51) note:

...earnings of year-around, full-time workers still falls considerably short of a measure of actual rates of pay because it reflects some variation in weeks of work per year, and probably substantially more variation in weekly hours of work.

Table 2: Shares of Relatively Low, Middle, and High Wage Jobs, 1973-1985

Wage Levels	Percent Distribution of Employment		Percentage Point Changes 1973 - 1985
	1973	1985	
Low	31.9%	35.7%	+3.8
Middle	34.8	31.7	-3.1
High	33.3	32.6	-0.7

The McMahon and Tschetter computations for 1973 and 1985 (they do not analyze 1979) are shown in Table 2. This research confirms an erosion of relatively middle-wage jobs (a 3.1 percentage point contraction) and an expansion of relatively low-wage employment. However, they find a contraction rather than an expansion of jobs at the upper end of the wage scale.

Changes in Average Wages

This section examines real (inflation-adjusted) wage trends over the 1973 to 1985 period. Changes in the median real wages shift the entire wage distribution either up or down. The combined effects of changes in the shape of the wage distribution (method one) and changes in the median real wages (shifting the distribution up or down) are examined in the next section.

There are two "technical" issues raised by Kusters and Ross that affect the measurement of changes in the level of inflation adjusted wages--the proper way to measure inflation and the proper way to estimate medians.

The issue of the proper price index is the most critical one. In fact, the difference

between Kusters' and Ross' and Bluestone's and Harrison's recent works are almost entirely due to their selection of price indices (in addition to Kusters' and Ross' focus on all workers rather than on full-time, full-year workers).

There is no consensus among economists as to the best measure of inflation. Some, like Kusters and Ross, suggest that the Consumer Price Index (CPI) overstated inflation in the 1970s and the early 1980s because of its treatment of housing costs. On the other hand, statistical agencies such as the BLS and the Census use the CPI to show historical trends in real earnings and family incomes. Recent studies by the Congressional Budget Office (CBO) have differed in their selection of an inflation index with one study on family incomes and taxes using the official CPI while another study on family incomes uses a different (experimental) CPI.¹⁵ In fact, Kusters has selected different indices for his various studies over the last few years. In Congressional testimony in 1985 and a research paper in 1986, Kusters used the official CPI to measure real wage growth.¹⁶ In a 1987 research paper Kusters and Ross use the personal consumption expenditure implicit deflator.¹⁷ The most recent work by Kusters and Ross has used the experimental CPI.¹⁸

One thing is clear about the index issue. The index selected by Kusters and Ross shows much less inflation and, therefore, a greater rise (or lesser fall) in real wages compared to the official CPI. To the extent that increased home ownership costs (higher prices, higher real interest rates) are not fully reflected in rental prices this index understates inflation. The Kusters and Ross research, therefore, provide the most generous estimates concerning the quality of jobs. All of the analyses of this study are based on research which employs these conservative inflation assumptions (using the Kusters and Ross data and the revised CPI in the update). As a result, the fact that the results overwhelmingly show an expansion in low-wage jobs provides very strong support for the contention that there has been an erosion of job quality.

The second technical issue concerns the procedure for estimating medians--the annual wage of the "person" whose wages are both below and above those of half the population. Kusters and Ross claim that Bluestone's and Harrison's research findings are sensitive to the particular procedure they use to estimate medians. In fact, as shown below, the same general findings emerge from analyses using a variety of procedures.

Moreover, to the extent that the Bluestone and Harrison procedure has any bias, it tends to *understate* the decline in real wages and therefore *understate* the increase in the expansion of low-wage jobs.

Table 3 provides three measures of the change in median wages. The first row measures wage changes using the method Kosters and Ross attribute to Bluestone and Harrison. The second row reproduces the Kosters and Ross calculations in median real earnings using their method which they say (page 28) uses "the procedures employed by BLS and Census."¹⁹ The data in the first two rows are drawn directly from Kosters' and Ross' appendix. The third row is based on the actual medians published in Census documents.²⁰

Table 3: Changes in Real Median Wages of Full-Time, Full-Year Workers, 1973-85

	<u>1973-79</u>	<u>1979-85</u>	<u>1973-85</u>
<u>Men Full-Time, Full-Year</u>			
(1) B & H *	0.4%	-1.4%	1.0%
(2) Kosters and Ross *	-0.4	-1.8	-2.2
(3) Census **	-3.0	-2.2	-5.2
<u>Women Full-Time, Full-Year</u>			
(1) B & H *	2.8%	4.5%	7.5%
(2) Kosters and Ross *	1.8	5.9	7.8
(3) Census **	2.2	5.9	8.1

* From Kosters and Ross Appendix Table A-3.

** From Census P-60 series except 1979 data are unpublished revised figures. Deflated using the Kosters and Ross inflation index.

These three series basically show the same pattern--that men's real wages have been falling and that women's real wages have been rising. Relative to the other measures, the official Census data consistently show significantly larger wage declines for men. The Bluestone and Harrison method understates the deterioration of men's wages relative to the other two methods. The Bluestone and Harrison method, therefore, may introduce a bias, but one towards a *decline* in low-wage jobs. For women, the three measures yield similar results.

We can conclude that even using a conservative inflation adjustment that real wages for men have dropped five percent (using the official Census data) while women's real wages have improved by eight percent from 1973 to 1985. Women's wages, of course, are still substantially below those of men. Kosters and Ross report that the ratio of women's to men's wages for full-time, full-year workers rose from 57 to 63 percent from 1973 to 1985.

Method Two: The Share of Workers with Low, Middle and High Wages

As reviewed earlier, the share of the workforce working at low-wage jobs is determined by changes in both the shape and the level of the wage distribution. The method two analysis captures both dimensions of change in establishing the share of the workforce in jobs at various inflation-adjusted wage levels. Table 4 presents changes in the shares of low, middle, and high-wage jobs based on the seven computations presented by Kosters and Ross for each group--men, women, and men and women together. These seven computations differ in the particular cutoffs used to define low, middle, and high-wage jobs (middle being: 50 percent/200 percent, 75 percent/150 percent, and 50 percent/150 percent) and in the reference year to which the definitions are pegged (e.g., low is 50 percent of the 1973, 1979, or 1985 median wage respectively, for estimates 1, 2, and 3).

Given the decline in real wages and the shift downward in the distribution of wages experienced by full-time, full-year men in recent years it should not be surprising to find, *as all of Kosters' and Ross' results do, that there has been a significant expansion of the proportion of men working at low wages.* The calculations shown in Column 1 indicate that from 3.6 to 4.0 percent of the jobs held by men shifted to the low-wage category between 1979 and 1985, a significantly larger shift downward than occurred in the 1973-79 period (Column 1). *This is clear evidence of an accelerated deterioration of job quality among men in the post-1979 period.*

The evidence is mixed concerning jobs held by women. In the recent period from 1979 to 1985 there has been an increase (of one to two percentage points) in women

Table 4
Changes in the Shares of Full-Time, Year-Round Workers with Low, Middle, and High-Wage Jobs, 1973-85

Row	Kosters & Ross Table #	Reference Median	Definition Cutoffs		Changes In Employment Share By Fixed Wage Level					
			Low*	High**	Low		Middle		High	
					1973-79 (1)	1979-85 (2)	1973-79 (3)	1979-85 (4)	1973-79 (5)	1979-85 (6)
Men Year-Round, Full-Time										
1.	A5	1973	50%	200	0.3%	4.0%	-1.1%	-3.9%	0.8%	-0.1%
2.	A5	1979	50	200	0.2	3.5	-1.0	-5.1	0.8	1.6
3.	A5	1985	50	200	0.0	3.9	-0.9	-5.3	0.9	1.4
4.	A5	1973	75	150	0.7	3.7	-1.4	-5.7	0.8	2.0
5.	A5	1979	75	150	0.9	3.7	-1.7	-5.7	0.8	2.0
6.	A5	1985	75	150	1.0	3.6	-1.5	-6.1	0.6	2.5
7.	15	1985	50	150	2.8	3.9	-3.4	-6.4	0.6	2.5
Women Year-Round, Full-Time										
8.	A5	1973	50%	200	-4.7%	2.1%	3.3%	-5.6%	1.4%	3.5%
9.	A5	1979	50	200	-3.3	1.0	3.2	-5.0	0.1	4.1
10.	A5	1985	50	200	-3.7	1.1	3.2	-3.9	0.5	2.8
11.	A5	1973	75	150	-2.9	-0.7	0.9	-5.6	2.0	6.3
12.	A5	1979	75	150	-1.5	-2.2	1.4	-6.4	0.2	8.6
13.	A5	1985	75	150	-5.4	-0.6	2.7	-5.2	2.7	5.9
14.	16	1985	50	150	-3.7	1.1	1.0	-7.0	2.7	5.9
Men & Women Year-Round, Full-Time										
15.	A5	1973	50%	200	-0.5%	2.4%	-0.1%	-2.9%	0.5%	0.6%
16.	A5	1979	50	200	-1.4	3.7	1.3	-3.9	0.1	0.2
17.	A5	1985	50	200	-1.3	3.7	1.2	-3.9	0.0	0.2
18.	A5	1973	75	150	2.4	1.7	-2.5	-2.2	0.1	0.5
19.	A5	1979	75	150	2.3	2.0	-3.2	-1.4	0.9	-0.5
20.	A5	1985	75	150	2.1	2.3	-2.8	-1.6	0.7	-0.7
21.	14	1985	50	150	-1.3	3.7	0.6	-3.0	0.7	-0.7

* Low wages defined as inflation-adjusted wages less than or equal to this percentage of the reference median wage.

** High wages defined as inflation-adjusted wages more than this percentage of the reference year median wage.

working low-wage jobs when a low-wage job is defined as paying less than or equal to half the median (estimates 8, 9, 10, and 14). When low-wage jobs are measured using a cut-off of less than or equal to three-fourths the median (estimates 11, 12, and 13) there appears to be a shrinkage of low-wage jobs held by women. The Table 4 results do show, however, that there was a shrinkage in the share of women in low-wage jobs in the 1973-79 period. *Thus, the Kusters and Ross research on the post-1979 period shows either a partial reversal of the gains made by women in the 1973 to 1979 period or a considerable slowing down of improvements* (the exception being estimate 12).

The results for all workers (both men and women) overwhelmingly show a proportionate shift towards low-wage work (from 1.7 to 3.7 percentage points), and a significant acceleration of this trend at the very lowest end of the wage scale (those with less than half the median) in the 1979-85 period compared to the 1973-79 period.

There has also been a shift towards higher-paying jobs for both men and women, a trend which also accelerated in the 1979 to 1985 period. For men, the shift upwards has been significantly less than the accompanying downward shift. For women, however, the shift upwards was dominant. The results for the workforce as a whole show a slight, if any, shift towards high-wage jobs.

In sum, the Kusters and Ross research on full-time, full-year workers overwhelmingly shows a shift towards low-wage jobs for men, and for men and women combined. Whether there has been a recent expansion of low-wage work among women in recent years depends on the definition. There has been a large shift towards higher-wage jobs for women and a more modest shift upwards for men. For the workforce as a whole, there was a slight, if any, shift upwards. Taken as a whole, these results show an overall deterioration of job quality in the post-1979 period.

The movement towards higher-wage jobs for women is certainly good news worth applauding. Yet, this good news needs to be put into the context of what constitutes a low and a high-wage job for a woman. According to Kusters and Ross analysis, a high-wage woman earns less than the average man. The median annual salary for a full-time, year-round woman worker in 1985 was \$15,433. When the share of women with annual wages of \$7,717 or less falls, this is said to be a shrinkage in "low-wage jobs" for women.

When proportionately more women earn \$23,150 or more then there is an expansion of "high-wage jobs," even though more than half of the men full-time, full-year workers made more than this.

So Why the Difference?

This interpretation of the Kusters and Ross study differs, of course, from that of the authors. How can that be? The answer is that Kusters and Ross highlight their research on the annual wages of all workers which, as we have shown above, is the wrong group to examine. The prior discussion focused on their research on the annual wages of full-time, full-year workers.

Nevertheless, it is worthwhile to examine the results that Kusters and Ross chose to highlight--the ones concerning the annual wages and salaries of all workers, those working part-time or part-year as well as full-time, full-year workers. Closer scrutiny reveals that Kusters' and Ross' conclusions: (1) are very sensitive to the year they select as their standard; (2) show a shift to low-wage jobs of two to four percent of the male workforce; and (3) reflect the fact that women are working harder (seven percent, or 95 more hours annually) as well as shifting to slightly better jobs. This is not the rosy picture their results are sometimes said to portray.

The Kusters and Ross analysis of the distribution of wages (method one) for all workers' annual wages is shown in Table 5 and their analysis of the changes in the proportion of workers earning low, middle, and high (inflation-adjusted) wages (method two) is shown in Table 6.

Table 5 shows that in the 1979-85 period there has been an expansion of men with relatively low annual wages as well as an expansion of men with relatively high annual wages. The shift downwards was stronger in the 1979-85 period than in the earlier period while the shift upward has slowed. For women, there was a shrinkage in the proportion of women with relatively low annual wages and an expansion in the proportion of women with relatively high annual wages. Thus, there has been a polarization of annual wages among men and a general upscaling of women's annual wages in the 1979 to 1985 period. The analysis of men and women combined shows a slight decline in the proportion of

Table 5: Changes in the Distribution of Annual Wages, 1973-85

Row	Wage & Salary Workers	Kosters & Ross Table #	Definitions Cutoffs		Changes in Employment Shares by Relative Wage Level					
			Low*	High**	Low		Middle		High	
					1973-79	1979-85	1973-79	1979-85	1973-79	1979-85
					(1)	(2)	(3)	(4)	(5)	(6)
1.	Men	A6	75%	150%	-0.8%	2.1%	-4.3%	-4.0%	5.0%	2.0%
2.	Men	7&A6	50	150	0.6	1.2	-5.6	-3.2	5.0	2.0
3.	Men	A6	50	200	0.6	1.2	-1.9	-4.6	1.2	3.4
4.	Women	A6	75	150	-1.9	0.2	4.7	-2.1	-2.9	1.9
5.	Women	8&A6	50	150	-1.5	-1.6	4.3	-0.3	-2.9	1.9
6.	Women	A6	50	200	-1.5	-1.6	6.5	-1.3	-5.1	2.9
7.	Men & women	A6	75	150	-1.1	-0.5	1.8	-0.9	-0.8	1.5
8.	Men & women	A6	50	150	-0.9	-0.4	1.7	-1.1	-0.8	1.5
9.	Men & women	A6	50	200	-0.9	-0.4	2.7	-0.4	-1.7	0.8

* Low wages defined as wages less than or equal to this percentage of the median wage of the current year.

** High wages defined as wages more than this percentage of the median wage of the current year.

Table 6: Changes in the Shares of Workers with Low, Middle, and High Annual Wages, 1973-85

Row	Wage & Salary Workers	Kosters & Ross Table #	Reference Median	Definition Cutoff		Changes in Employment Share by Fixed Wage Level					
				Low*	High**	Low		Middle		High	
						1973-79 (1)	1979-85 (2)	1973-79 (3)	1979-85 (4)	1973-79 (5)	1979-85 (6)
1.	Men	A5	1973	50%	200%	1.0%	3.6%	-1.2%	-4.1%	0.1%	0.5%
2.	Men	A5	1979	50	200	1.0	2.1	-0.8	-3.7	-0.2	1.6
3.	Men	A5	1985	50	200	0.8	2.1	-1.1	-3.9	0.2	1.8
4.	Men	A5	1973	75	150	2.1	3.9	-3.4	-3.1	1.3	-0.8
5.	Men	A5	1979	75	150	0.4	4.3	-2.8	-3.1	2.3	-1.2
6.	Men	A5	1985	75	150	0.4	3.3	-3.4	-2.3	2.9	-1.0
7.	Men	12	1985	50	150	0.8	2.1	-3.8	-1.1	2.9	-1.0
8.	Women	A5	1973	50	200	-5.2	-1.9	3.4	-3.2	1.6	5.3
9.	Women	A5	1979	50	200	-3.6	-2.9	3.2	-4.0	0.4	6.9
10.	Women	A5	1985	50	200	-5.4	-3.2	4.1	-2.6	1.3	5.8
11.	Women	A5	1973	75	150	-4.5	-3.8	1.3	-2.1	3.2	5.8
12.	Women	A5	1979	75	150	-4.3	-2.6	2.4	-2.4	1.9	5.0
13.	Women	A5	1985	75	150	-6.3	-1.4	2.6	-3.4	3.7	4.7
14.	Women	13	1985	50	150	-5.4	-3.2	1.7	-1.6	3.7	4.7
15.	Men & Women	A5	1973	50	200	-0.8	-0.4	2.9	-0.6	-2.0	1.0
16.	Men & Women	A5	1979	50	200	-0.8	-0.4	1.3	-0.4	-0.5	0.8
17.	Men & Women	A5	1985	50	200	-0.9	-0.3	1.4	-0.3	-0.6	0.7
18.	Men & Women	A5	1973	75	150	-0.9	1.6	1.9	-1.9	-1.0	-0.8
19.	Men & Women	A5	1979	75	150	-0.8	1.7	1.8	-0.6	-1.1	-0.9
20.	Men & Women	A5	1985	75	150	-0.8	-0.4	1.8	-0.9	-1.1	1.4
21.	Men & Women	3	1985	50	150	-0.9	-0.3	2.0	-1.1	-1.1	1.4

* Low wages defined as inflation-adjusted wages less than or equal to this percentage of the reference median wage.

** High wages defined as inflation-adjusted wages more than this percentage of the reference year median wage.

workers with relatively low annual wages between 1979-85, *an improvement which is only half what was achieved in the 1973-79 period* (compare Columns 1 and 2). There was an overall increase in the share of workers with relatively high annual wages in the recent period, a reversal of the shrinkage that occurred in the earlier period.

As described earlier, the method two results shown in Table 6 reflect changes in average annual wages and in the distribution of annual wages. There was a large increase in the share of men with low annual wages in the 1979-85 period (from two to four percent), a greatly accelerated shift over that experienced in the 1973-79 period. The shrinkage of mid-level annual wages among men was accompanied by a slight shift towards the very top (the ten percent earning more than twice the median) but a shrinkage among the top more broadly defined (the roughly 30 percent earning more than 1.5 times the median). There was an across-the-board improvement in the annual wages of women--a shrinkage of women with low and mid-level annual wages and an expansion of women with high annual wages.

The overall picture--the annual wages of women and men combined--is best illustrated by Table 7 which shows the changes in the proportion of workers at various inflation-adjusted annual wage levels using each of the three reference years for which there are data in the Kusters and Ross study. Kusters and Ross consider the results from the first column which define low, middle, and high wages relative to the median annual wage in 1985 to be their major research findings. These particular results show an overall shift upwards through the wage scale. The other two estimates, not highlighted by Kusters and Ross, show a more complex picture--one where there is an increasing share of workers with the very highest annual wages (twice the median), a slight decline at the very lowest annual wages level (equal to or below 50 percent of median) and a large increase in the share of workers with low annual wages between half and three-fourths of the median. Kusters and Ross, therefore, have been able to portray an improving wage structure, in part, by (perhaps inadvertently) selecting the only one of three estimates which show a general upscaling of the wage structure.

Table 7: Changes in Shares of Workers by Annual Wage Level, 1979-85

<u>Wage Level Relative to Median in Reference Year</u>	<u>Reference Year For Median</u>		
	<u>1985</u>	<u>1979</u>	<u>1973</u>
200% +	0.7%	0.8%	1.0%
150 - 200%	0.5	-1.7	-1.8
75 - 150%	-1.1	-0.8	-0.8
50 - 75%	0.2	2.1	2.0
Less than 50%	-0.3	-0.4	-0.4

Closer scrutiny of Kusters' and Ross' research findings concerning workers' annual wages reveals that they hardly provide a picture of significant labor market improvement. One major trouble spot is that there has been a large shift downward in the annual wages of men (some 54 percent of the workforce). This has been balanced somewhat by a significant improvement in the annual wages of women. Looking at the workforce as a whole one finds evidence of an increase in workers with the very highest wages. However, two out of three available estimates show a significant shift of workers from mid-level to low annual wages.

Better Jobs or Working Harder?

These results are, by their nature, ambiguous concerning the quality of jobs issue. That is because annual wages are the result of both the amount of paid work performed in a year (hours per week and weeks per year) and the wages of the jobs held by workers. Data on annual wages thus combine information on both aspects of labor market performance--the quantity of jobs dimension as well as the quality of jobs dimension.

As reviewed earlier, Kusters and Ross themselves argue that to examine changes in the *wages paid on the job*--the quality of jobs issue--one must focus on full-time, full-year workers. Kusters' and Ross' focus on all wage and salary workers allows changes in the amount of hours and weeks worked in a year to influence their results. This is inappropriate since hours and weeks worked are cyclically sensitive, are partly based on choice and partly not based on choice and because any increased effort may be the *result* of a shift to low-wage jobs.

This raises a key question concerning Kosters' and Ross' claim that they have found an improvement in job quality. To what extent is any shift from low to high annual wages (for women, for instance) due to increased hours of work and how much is due to a shift to higher quality of jobs?

Table 8 collects the available information on changes in weeks worked per year. The same survey that provides annual wage data also provides the data on annual weeks worked in 1979 and in 1985 (but not in 1973) that is shown in Column 1. Estimates from published data are used to show changes over the entire 1973 to 1985 period (shown as Columns 2 and 3). These data show that there has been a significant increase in weeks worked in the 1979 to 1985 period, especially among women. The average work year for women was extended by two weeks, an increase in weeks worked by 4.7 percent. There

Table 8: Changes in Weeks Worked, 1973-85

	Average Weeks Worked*	Estimated Weeks Worked**:		Share Full-Year
		Full-Time	Part-Time	
	(1)	(2)	(3)	(4)
Men				
1973	NA	46.1 wks	30.4 wks	71.1%
1979	44.9	45.9	31.5	70.2
1985	45.0	46.0	32.1	71.2
Percent Change:				
1973-79	NA%	-0.4%	3.6%	-1.3%
1979-85	0.2	0.2	1.9	1.4
Women				
1973	NA wks	41.1 wks	30.6 wks	51.2%
1979	40.1	42.6	32.1	54.0
1985	42.0	44.5	33.8	60.9
Percent Change:				
1973-79	NA%	3.6%	4.9%	5.5%
1979-85	4.7	4.5	5.3	12.8

* Calculated from the March tapes for calendar year 1979 and 1985. Comparable data are not available for 1973.

** Estimated from P-60 series by weighted average of midpoints of brackets.

was also a 12.8 percent increase in the share of women working full-year (from 54 to 60.9 percent). There was only a slight increase in weeks worked by men since 1973. These data (Columns 2 and 3) also suggest that there was a greater increase in weeks worked by men and women in the 1979-85 period than in the 1973-79 period (nearly 86 percent of men are full-time). The other dimension of work effort is the number of hours worked per week. Unfortunately, the survey that provides annual wage information does not provide annual or average weekly hours worked. However, there are some BLS data (shown in Table 9) which can be used to examine changes in weekly hours worked from 1979 to 1985 (but not for the earlier period). The relevant data for assessing Kusters' and Ross' results are those for all wage and salary workers. There has been a two percent increase in weekly hours worked by women and no change for men. These data suggest that the annual hours worked by women grew by 6.9 percent from 1979 to 1985, a result of a 2 percent increase in hours per week and a roughly 5 percent increase in weeks worked per year. *The implication is that much of the improvement in women's annual wages found by Kusters and Ross is probably due to a significant increase in work effort and not in a change in the quality of jobs available for women.*²¹ In fact, a 6.9 percent increase in annual hours for women (equal to 95 more hours worked annually) accounts for most of the 8.7 percent rise in women's median real annual wages from 1979 to 1985 reported by Kusters and Ross. For men, the information on hours and weeks worked suggest no significant increase, or decrease, in annual hours worked.

The bottom panel in Table 9 shows that full-time workers averaged more hours worked per week in 1985 than in 1979. This is especially true for women. This rise in weekly hours in full-time workers suggests that any analyses of full-time, full-year workers in this period overstates any improvement in job quality and understates any deterioration in job quality.

The fact that work effort increased in the 1979 to 1985 period calls into question the legitimacy of Kusters' and Ross' claim that:

The principle conclusion of this analysis, however, is that for workers as a whole, there has been no proliferation of low-wage (or even low-earning) jobs, and there has not been any erosion toward lower earnings status of workers in the middle. (page 50) [Emphasis added]

Table 9: Changes in Weekly Hours, 1979-85

	Average Hours Worked 1979	1985	Growth in Hours/Week 1979 - 1985
<u>All Wage and Salary Workers</u>			
Total	38.9 hours	39.0 hrs	0.7%
Men	42.0	42.0	0.0
Women	34.5	35.2	2.0
<u>Full-Time Wage and Salary Workers</u>			
Total	43.1 hours	43.4 hrs	0.7%
Men	44.6	44.9	0.7
Women	40.3	41.0	1.7

Source: Unpublished BLS data.

What is at issue is whether they can properly infer anything about jobs based on their analysis of annual wages of part-year and part-time, as well as full-year and full-time workers. Kusters' and Ross' analysis of the annual wages of workers in the 1979-85 period showed a shift downward for men and a counterbalancing stronger shift upwards for women. Given the significant increase in work effort by women it is improper for Kusters and Ross to infer information on *jobs* from their data on annual wages. On the other hand, their analyses of data on full-time, full-year workers suggest a significant deterioration in job quality. Moreover, Kusters and Ross themselves (and many others) argue that analyses of annual wages of full-time, full-year workers more clearly reflect changes in the wages of *jobs*. Thus, the principle conclusion that should be drawn from their study is that for all workers there has been a significant expansion of low-wage jobs in recent years accompanied by a shrinkage in the availability of jobs with mid-level wages. There has also been some shift towards better paying jobs, especially for women.

Update to 1986

Table 10 presents an update of the Kusters and Ross study to 1986.²² The figures show the changes between 1979 and 1986 in the share of full-time, full-year workers with low, middle, and high-wages, updating the data in Table 4 (method two). The comparable

results for the 1979 to 1985 period are shown for comparison purposes. The primary conclusions of the earlier analyses for the 1979 to 1985 period hold true for the update to 1986.

Table 10: Changes in the Share of Workers With Low, Middle, and High-Wage Jobs, 1979-86

	Low*		Middle		High	
	1979-85	1979-86	1979-85	1979-86	1979-85	1979-87
Full-Time, Full-Year						
All	3.6%	3.3%	-3.1%	-4.8%	-0.5%	1.5%
Men	3.8	3.6	-6.4	-7.4	2.6	3.8
Women	1.2	1.2	-8.4	-10.6	7.3	9.5

* Low wages defined as wages less than or equal to 50 percent of the 1985 median wage.

** High wages defined as wages more than 150 percent of the 1985 median wage.

Between 1979 and 1986 there was a 7.4 percentage point shrinkage of men in mid-level paid jobs, with roughly half shifting to lower-paid work and the other half shifting to higher-paid work. There was an expansion of low-wage work for women in this period but a much larger shift towards high-wage jobs. For men and women combined the proportion of middle-wage jobs declined (by 4.8 percentage points) and there was an accompanying major shift towards low-wage work (3.3 percentage points, or seventy percent of the middle-wage shrinkage). The only significant difference between the 1979-85 and the 1979-86 trends is that extending the analysis to 1986 shows an overall expansion (rather than a contraction) of high-wage jobs.

Conclusions

We have seen that the Kusters and Ross research actually points to an overall expansion of low-wage jobs in the 1979 to 1985 period. Updating their analysis shows that the loss of middle-wage jobs has been accompanied by a significant shift towards low-wage jobs and a smaller shift towards high-wage jobs. The economic performance concerning job quality has been worse in the 1979 to 1985 period than in the 1973 to

1979 period.

For policy purposes it is important to understand the causes of this deterioration in job quality. No one single factor is responsible and there has not been sufficient research on the cause of job quality deterioration to firmly establish the importance of particular factors. However, some explanations make more sense than others. One major factor is the productivity slowdown since 1973. However, this explanation has its limits since productivity growth was greater from 1979 to 1986 than in the earlier 1973 to 1979 period (1.1 percent annually versus 0.5 percent annually); yet, despite some productivity growth improvement there was a greater deterioration of job quality after 1979. Thus, the productivity slowdown provides only a partial answer. An even less satisfactory explanation is one that Kusters and Ross pursue--a shift towards a younger workforce. Their own data (Table 19), however, show that there was no decline in the median age of the workforce between 1979 and 1985, the years of deteriorating job quality.²⁹ Moreover, an earlier study by Kusters and Ross (1987a) shows that higher levels of education have had a much greater positive effect on wages than any negative effects occurring because of shifts towards younger workers.

Part of the explanation lies with the large shift of employment from high to low-wage industries since 1979. The industry employment shifts between 1979 to 1985 lowered weekly wages of nonsupervisory workers by 3.5 percent. One positive recent development has been the shift towards higher-paying occupations, although this factor has not been as powerful as recent industry employment shifts (see Mishel (1988)). Other significant factors are the decline in the value of the minimum wage and the weakening of union bargaining power.

Given the considerable evidence on the expansion of low-wage jobs in recent years, it is important that researchers and policy analysts turn their attention to the causes of this deterioration in the job quality and to possible remedies.

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Endnotes

1. However, the rate of job creation from 1979 to 1987 is below that of the 1967 to 1979 period, partially due to slower adult population growth but also because of slower growth in the employment to population ratio.
2. There is some overlap between these two dimensions, such as the underemployment and lost wages due to increased involuntary unemployment.
3. Frank Levy (1987), Thurow (1987), Bluestone and Harrison (1988b).
4. The data are from the Work Experience Survey, which is a supplement to the March Current Population Survey. Workers' labor income is referred to as annual wages (and salaries) in this paper to distinguish between a sample of wage and salary workers and one which includes all self-employed, whose labor income in Census terms is earnings.
5. The *Public Interest* article presents some analyses of the distribution of year-round, full-time wages but not the "bottom-line" results.
6. Article (February 1, 1987) and in a recent *American Economics Review* article.
7. [*Detroit News*, 2/9/87].
8. It should also be pointed out that Bluestone and Harrison presented analyses of year-round, full-time workers in the JEC study (pp.39-42) which showed an expansion of low-wage work. The updated numbers were in the *New York Times*, February 1, 1987.
9. That is, when the analyses are done on annual wage data. Analysis of full-time, full-year workers can be viewed as a proxy for the analysis of all jobs.
10. A recent article by BLS economists Horrigan and Haguen (1988) analyze changes in the proportionate size of the middle class using two methods comparable to those used by Kusters and Ross.
11. In an effort to distinguish these two methods, the results of the first (distributional) method are reported as changes in "relatively" low wages.
12. The terminology used in this paper distinguishes an analysis of just full-time, full-year workers by referring to its conclusions in terms of the *wages of jobs*. Analysis of the annual wages of all workers is distinguished by referring to its conclusions in terms of *annual wages*.
13. The changes in shares may not sum to zero because the shares of employment in the source tables do not always add to 100.

14. This is the first of many examples where in combining information on men and women one seems to lose information, such as the findings that relatively low-wage jobs expanded for both men and women. The results for men and women do not necessarily reflect what is happening within each gender group treated separately since the analysis by gender uses wage standards (middle wage cutoff) specific to each gender--a high-wage woman earns only as much as the average man.

15. See Congressional Budget Office (1987) and (1988).

16. See Kosters (1986).

17. See Kosters and Ross (1987a). For analyses relating to standards of living it is inappropriate to use implicit, rather than fixed-weight deflators, since changes in consumption patterns are at least partially a response to changing prices.

18. There is not even agreement among the users of Kosters' and Ross' (recently) preferred index--the experimental CPI--on the inflation shown by it: Kosters and Ross attribute 1 percent more inflation to the 1979-85 period than shown by another American Enterprise Institute study. (See Weicher (forthcoming).) The difference leads Kosters and Ross to overstate real wage declines compared to calculations using the Weicher index.

19. Actually, this is not accurate. Census carries out the estimation of medians on annual wage data for BLS. The Census methodology, as outlined, in Census [1986, p.177-179] is based on data intervals of \$1,000 up through \$10,000, intervals of \$2,500 from \$10,000 to \$20,000, and larger intervals thereafter. Medians are estimated using linear interpolation when the median falls into an interval of \$2,500 or less (which is the usual case) and pareto interpolation in large intervals. Koster and Ross, on the other hand, always use \$1,000 intervals and linear interpolation, and center their intervals on even \$1,000 intervals but not centered on \$1,000 values. Census does not center its intervals on even \$1,000 values; Census is moving to linear interpolation of \$1,000 intervals, but not ones centered on multiples of \$1,000.

20. There are slight differences between the Census and the Kosters and Ross samples. Census includes all self-employed (not just incorporated self-employed), the military, and fifteen year olds (fourteen year olds in 1973 as well). The change in the Census age cutoff between 1973 and 1979 leads the data to overstate wage increases. Otherwise, there does not seem to be any systematic bias in comparison of these two samples.

21. Their data on full-time, year-round women does not show a significant shift upwards as well. However, that may be partly due to a rise in hours worked by women earning high-wages in full-time jobs (which may exceed the 1.7 percent overall increase in weekly hours).

22. The sample includes those sixteen or more years old with positive wage and salary income and positive family income. Kosters and Ross exclude the military. These calculations include military.

23. The sample includes those sixteen or more year olds with positive wage and salary income and positive family income. Kusters and Ross exclude the military, whereas these computations do not. These computations attempt to replicate the Kusters and Ross method as closely as possible. Professor Barry Bluestone of the University of Massachusetts - Boston prepared these computations for the Economic Policy Institute.

THERE THEY GO AGAIN

Comments on

**"The Quality of Jobs: Evidence from Distributions
of Annual Earnings and Hourly Wages"**

by Marvin H. Kusters and Murray N. Ross (July 1988)

by Lawrence Mishel

1. Kosters and Ross have again written a paper where the conclusions do not match the data presented. They claim there has been no change in the distribution of wages. In fact, their data show a decisive shift downward and upward.

2. Also, Kosters and Ross change their definition of job quality in this paper. Their previous definition incorporated changes in the shape of the wage distribution and changes in the average wage. They now focus solely on the shape of the wage distribution. This new definition could yield "no change in job quality" even if every worker suffered a 50 percent cut in pay. This example shows that to examine whether there has been a shift to low or high-paying jobs, one must look at changes in the average wage, as well as changes in the distribution of wages (as they do in their Table 3 for just one data source).

3. They are very selective about the data they present. The following table shows an "X" where data are presented and an "O" where it is missing.

"Measure" of Job Quality	<u>Data Presented</u>		
	<u>Annual Wages of:</u>		Hourly Wages
	<u>All Workers</u>	<u>Full-Time, Full-Year Workers</u>	
1. Changes in Distribution	X	X	X
2. Incorporating Changes in Distribution and Average Wage	X	O	O

4. Kosters and Ross, therefore, only address the quality of jobs issue using the annual wages of all workers. My paper presented at this press briefing argues that any analysis of these data can not distinguish between wage growth based on people working more hours

and wage growth based on shifts to higher-paying jobs. Their conclusions from these data are invalid because workers are working longer hours. Table 1 (attached) shows women worked 118 more hours, or 8.5 percent more, in 1986 than in 1979. This is a major reason why Kusters and Ross can show a slight shift to higher annual wages and a shift away from low annual wages (in their Table 3) between 1979 and 1986 (all of the improvements are due to the upscaling of women's annual wages).

5. There is broad agreement that analysis of job quality trends using annual wage data should be based on data restricted to full-time and full-year workers. Yet, Kusters and Ross do not even include such an analysis in this paper although they did so in their earlier paper. Perhaps this is because analyses of the data on full-time, full-year workers show an overwhelming trend towards low-wage job expansion at the expense of middle-wage jobs (see Table 10 in my paper). Kusters and Ross should be applauded for their analysis of hourly wages in this paper since such data necessarily avoid the ambiguities of annual data discussed above. But why do they focus *only* on the shape of the wage distribution and not on the quality of jobs issue (as they do in their Table 3 data using annual wage data for all workers)? The answer is that such an analysis would show a deterioration in job quality, as I show below.

6. What can we conclude from what they do present? They claim that "there has been little change in the shape of the distribution of annual earnings or hourly wages for the workforce as a whole" (page 3). Given that real hourly wages (their Table A11) did not grow from 1979 to 1987 (holding at \$7.44) they must *be contending that the quality of jobs has not improved since 1979*. This, of course, does not reflect well on the economy. The debate is thus between those claiming no change in job quality and those claiming a deterioration in job quality. The Kusters and Ross data actually suggest a deterioration in job quality in terms of an expansion of low-wage jobs, as is shown below.

7. First, their data overwhelmingly show a change in the distribution of wages such that both relatively low and relatively high-wage jobs have expanded since 1979. See

attached Table 2 for their data on full-time, full-year workers and Table 3 for their data on hourly wages. The hourly data show a strong shift down and up among men and among women wage and salary workers and a larger shift downwards since 1979 than occurred between 1973 and 1979.

8. Table 4 (attached) presents the most refined (the most cutoffs) breakdown of the hourly wage distribution that Kusters and Ross provide. These data show a shift of 6.8 percent of the workforce to the lowest end of the wage distribution (earning \$3.93 or less in 1987) and a smaller shift towards the very top (\$11.79 or more). So, the wage distribution, according to the Kusters and Ross data, has become polarized.

9. The shift in the shape of the wage distribution and the lack of any rise in real wages since 1979 is enough to conclude that low wage jobs have expanded. However, even when wages do not grow, some groups are experiencing real wage growth while others suffer real wage declines. Table 5 (attached) shows that hourly workers took a 3.8 percent real wage cut between 1979 and 1987. On the other hand, the wages of workers not paid hourly rose 4.9 percent between 1979 and 1987. Workers paid by the hour make much less (\$6.11 in 1987) than those not paid by the hour (\$9.81 in 1987). This trend of low-wage workers taking pay cuts and high-wage workers making wage gains implies an even larger shift towards both low-wage and high-wage work, than the shifts in the distributions of wages by themselves show.

Table 1: Changes in Weeks Worked and Hours Worked, 1979-86

	Hours			Weeks		
	1979	1986	Percent Change 1979-86	1979	1986	Percent Change 1979-86
Male	42.0 hrs.	42.1 hrs.	0.2%	44.9 wks.	45.0 wks.	0.2%
Female	34.5	35.4	2.6	40.1	42.4	5.7
All	38.9	39.1	0.5	42.8	43.8	2.3

Source: Unpublished BLS data (Table 30A)

Implied Changes in Average Annual Hours Worked, 1979-86

	Percentage Change*	Hours Change
Male	0.4%	8.7 hrs.
Female	8.5	117.5
All	2.9	47.7

* One plus change in hours worked times one plus percent change in weeks worked, less one.

Table 2: Changes in the Wage Distribution of Jobs, 1967-86

	Low	Middle	High
<u>Men, Full-Time, Full-Year</u>			
1967-73	+0.5%	-1.9%	+1.4%
1973-79	+0.2	-1.1	+0.9
1979-86	+3.6	-7.6	+4.0
<u>Women, Full-Time, Full-Year</u>			
1967-73	-3.6%	+1.3%	+2.4%
1973-79	-3.2	+3.9	-0.8
1979-86	+4.1	-8.5	+4.4
<u>Men & Women, Full-Time, Full-Year</u>			
1967-73	-1.7%	-0.4%	+2.1%
1973-79	-2.5	+0.4	+2.1
1979-86	+3.3	-4.9	+1.5

Source: Kosters and Ross, July 1988 (Tables 6,7,8)

Table 3: Changes in Distribution of Hourly Wages, 1973-87

	Low*		Middle		High**	
	1973-79	1979-87	1973-79	1979-87	1973-79	1979-87
<u>All Wage & Salary</u>						
Male	+0.6%	+3.2%	-2.7%	-7.4%	+2.1%	+4.2%
Female	-0.8	+3.6	+1.6	-8.1	-0.8	+4.5
All	-1.9	+0.8	+0.6	-3.1	+1.3	+2.3
<u>Full-Time</u>						
Male	+3.8%	+1.1%	-6.4%	-2.1%	+2.6%	+1.1%
Female	-0.2	+5.3	+2.4	-8.9	-0.5	+3.7
All	+0.5	+1.2	-2.8	-1.0	+2.3	-0.2

* Less than or equal to 75% of median hourly wage

** Greater than 125% of median hourly wage

Table 4: Changes in the Distribution of Hourly Wages, 1973-87

Time Period	Employment Shares Percent of Current Year Median:					
	<=50%	51-75%	76-100%	101-125%	126-150%	>150%
1973-79	-5.5%	+3.6%	+2.5%	-2.0%	-2.1%	+3.4%
1979-87	+6.8	-6.0	-2.4	-0.7	+0.2	+2.1
1979 share	4.5%	26.6%	20.2%	13.6%	11.4%	23.7%

Source: Kosters and Ross, July 1988, Table 20, Table A5

Note: Median wage in 1987 was \$7.86, so the increase from 1979 to 1987 in the share of workers earning fifty percent or less than the median means an increase of 6.8 percent of the workforce to wages less than or equal to \$3.93.

Table 5: Percent Changes in Real Hourly Wages

	All Wage and Salary	Paid Hourly	Not Paid Hourly	Full- Time
<u>Men</u>				
1973-79	0.2%	- 2.9%	0.9%	0.4%
1979-87	-5.3	-10.0	5.5	-4.1
<u>Women</u>				
1973-79	-1.0%	1.2%	0.0%	-1.1
1979-87	6.6	1.2	15.8	8.2
<u>Men and Women</u>				
1973-79	-3.8%	-4.4%	1.0%	-4.0%
1979-87	0.0	-3.8	4.9	1.2

Source: Kosters and Ross, July 1988, Tables A11, A12, A13 and A14